Amendment to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A hydrogen passivation shut down system for a fuel cell power plant (10), the system comprising:

a. at least one fuel cell (12) for generating electrical current from hydrogen containing reducing fluid fuel and oxygen containing oxidant reactant streams, the fuel cell (12) including an anode catalyst (14) and a cathode catalyst (16) on opposed sides of an electrolyte (18), an anode flow path (24) in fluid communication with the anode catalyst (14) for directing the hydrogen fuel to flow through the fuel cell (12) and adjacent the anode catalyst (14), and a cathode flow path (38) in fluid communication with the cathode catalyst (16) for directing the oxidant stream to flow through the fuel cell (12) and adjacent the cathode catalyst (14);

b. a hydrogen inlet valve (52) secured between a hydrogen containing reducing fluid fuel source (54) and the anode flow path (24) for selectively permitting the hydrogen fuel to flow into the anode flow path (24);

c. an oxidant inlet valve (56) secured between an oxygen containing oxidant source (58) and the cathode flow path (38) for selectively permitting the oxidant to flow into the cathode flow path (38);

d. hydrogen transfer means secured in communication between the anode flow path (24) and the oxidant flow path (38) for selectively permitting flow of the hydrogen fuel between the anode flow path (24) and the cathode flow path (38); and,

e. hydrogen reservoir means secured ~~between the hydrogen inlet valve (52) and an anode exhaust valve (32) secured to the anode flow path (24), the hydrogen reservoir means being secured~~ in fluid communication with the anode flow path (24) for storing the hydrogen fuel whenever the hydrogen inlet valve (52) is open to permit flow of the hydrogen fuel through the anode flow path (24), and for releasing hydrogen fuel into the anode flow path (24) whenever the hydrogen inlet valve (52) is closed.

2. (Original) The system of claim 1, wherein the hydrogen reservoir means comprises a hydrogen vessel (66) secured outside the fuel cell (12) in fluid communication with the anode flow path (24).

3. (Original) The system of claim 2, wherein the hydrogen vessel (66) includes a hydrogen storage media stored within the vessel (66).

4. (Original) The system of claim 1, wherein the hydrogen reservoir means comprises a hydrogen storage media secured in fluid communication with the anode flow path (24).

5. (Original) The system of claim 1, wherein the hydrogen reservoir means comprises a hydrogen storage media secured within the anode flow path (24).

6. (Original) The system of claim 1, wherein the hydrogen reservoir means comprises a hydrogen storage media secured within a porous anode substrate layer (20) supporting the anode catalyst (14).

7. (Original) The system of claim 1, wherein the hydrogen transfer means comprises a hydrogen transfer valve (64) secured in fluid communication between the anode flow path (24) and the cathode flow path (38).

8. (Original) The system of claim 1, wherein the hydrogen transfer means comprises a hydrogen transfer electrochemical pump including a direct current source secured in electrical communication with the fuel cell (12) so that hydrogen is consumed at the anode catalyst (14) and evolved at the cathode catalyst (16).

9. (Original) The system of claim 1, wherein the hydrogen transfer means comprises a hydrogen transfer proton exchange membrane electrolyte (18) secured between the anode catalyst (14) and cathode catalyst (16) that permits diffusion of hydrogen across the proton exchange membrane electrolyte (18) so that a concentration of hydrogen within the cathode flow path (38) may be in substantial equilibrium with a concentration of hydrogen within the anode flow path (24).

10. (Original) The system of claim 1, further comprising a cathode bypass valve (72) secured in fluid communication with a cathode exhaust (44) of the cathode flow path (38), a cathode bypass line (74) secured in fluid communication between the cathode bypass valve (72) and a cathode inlet (40) of the cathode flow path (24), and one of a cathode bypass blower (76) secured to the cathode bypass line (74) or an oxidant blower (60) secured to the cathode inlet (40) for selectively directing and accelerating flow of a cathode exhaust stream from the cathode exhaust (44) through the cathode inlet (40) of the cathode flow path (24).

11. (Original) The system of claim 1, further comprising an anode exhaust vent (34) secured in fluid communication with the anode flow path (24) for directing an anode exhaust stream away from the fuel cell (12) out of the power plant (10), and a cathode exhaust vent (48) secured in fluid communication with the cathode flow path (38) for directing a cathode exhaust stream away from the fuel cell (12) and out of the power plant (10), wherein the anode exhaust vent (34) and cathode exhaust vent (48) are secured below the fuel cell (12) with respect to a directional force of gravity (53).

12. (Original) The system of claim 11, wherein the anode exhaust vent (34) is a vacuum release valve and the cathode exhaust vent (48) is a vacuum release valve to prevent a vacuum from forming inside the fuel cell (12).

13. (Original) The system of claim 1, further comprising an anode recycle line (75) secured in fluid communication between an anode exhaust (30) of the anode flow path (24) and an anode inlet (26) of the anode flow path (24), and an anode recycle blower (77) secured to the anode recycle line (75) for selectively directing and accelerating flow of an anode exhaust stream between the anode exhaust (30) and anode inlet (26).

14. (Original) The system of claim 1, further comprising a hydrogen sensor means secured in communication with the fuel cell (12) for detecting a concentration of hydrogen within the anode flow path (24) and the cathode flow path (38).

15. (Previously Presented) The system of claim 14, wherein the hydrogen sensor means comprises a sensor circuit (80) secured in electrical communication with an external circuit (82), which external circuit (82) is secured in electrical communication with the anode catalyst (14) and the cathode catalyst (16) the sensor circuit (80) including a power source (84), a voltage-measuring device (86), and a sensor circuit switch (88), the sensor circuit (80) being secured to the fuel cell (12) so that the power source (84) may selectively deliver a pre-determined sensing current to the fuel cell (12) for a pre-determined sensing duration for measuring a voltage difference between the anode catalyst (14) and cathode catalyst (16).

16. (Previously Presented) The system of claim 1 further comprising an auxiliary load (94) connected to an external

circuit (82), wherein the auxiliary load (96) causes an oxygen concentration within the cathode flow path (38) to be reduced and fuel cell voltage to be lowered.

Claims 17 - 27 (canceled)